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# BOONE LAND DEVELOPMENT PLAN

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## GOALS OF THE LAND DEVELOPMENT PLAN



## Social

To provide for the needs and desires of the local citizenry.

To promote community identity in the town by attempting to preserve the existing unique character of Boone which is different from other towns. This would include the College, Horn in the West, and other tourist-oriented attractions. It seeks to make the people feel that they are a part of a distinctive community.

To promote individual identity by continually making public improvements in the town and allowing a person to feel that he is part of a progressive community which in turn will inspire community pride.

To promote a liveable environment with pleasant neighborhoods, convenient to the recreation and shopping facilities of the town.

To promote the health, safety and general welfare of the community by adopting the necessary codes and ordinances.

To make the citizens aware of existing inadequancies, deficiencies, and problems of the town and to stimulate their interest.

To promote patterns of development that will inspire community pride and participation in cultural and civic affairs.

## Economic

To encourage the creation of new jobs in the town.

To promote the economic well-being of the people by consolidating the diverse employment areas with suitable job opportunities and an efficient traffic system.

To promote the town as a center of commerce and industry because of its geographic location in Watauga County.

To improve the finance structure by encouraging the efficient growth patterns and the establishment of a capital improvement program with budget.

To preserve an adequate supply of vacant level land with utilities for the space needs of existing and new industries.

To improve and promote the town as a place for commerce and industry by making it efficient in terms of traffic and distribution of goods.

## Community Policy

All decisions, whether on a governmental, business, industrial, or individual level, should follow the logical growth pattern of the community. This can be accomplished by:

Improved codes and ordinances to guide development.

Active promotion of the plan and education of the public and developers so they may gain an understanding of the goals of the Development Plan.

Assurance that public hearings in regard to zone change requests are considered properly in light of the Development Plan.

### Physical

To promote compatible and harmonious land uses and orderly and integrated physical environments.

To attempt to discourage undesirable growth patterns which are difficult to service with municipal utilities.

To improve the circulation of the town by classifying streets according to the function and land use they serve.

To retain housing that is good and remove the housing that is poor to improve the appearance of neighborhoods.

To prepare a Land Development Plan showing the desirable land use pattern.

To take advantage of the town's opportunities for promoting desirable urban development and for preserving, conserving, and enhancing certain unusual physical features, historical and scenic points of interest, and natural beauty and resources; to retain the amenities which have attracted many people to settle in the town.

To provide space to meet the ranges of social, cultural, and economic needs of the citizens and to strengthen community identity.

To prevent the useless dissipation of commercial, industrial, and residential growth.

To coordinate public facilities with the existing and expected future land use pattern for the convenience of the citizens.

To facilitate regional identification by providing good access to all the working and living areas and to the County.

## SPECIFICATIONS

### Assumptions

Assumptions in the Development Plan are used because many events of the future cannot be told with surety or accuracy but must be considered in the development of plan policies and plan design. Assumptions, therefore, are substituted for knowledge and deal with the economic, social and



political aspects of Boone. They assume --

that the population and economic growth of Boone will continue with the expansion of existing industry, commerce, Appalachian State University, and the attraction of new industry;

that the Town of Boone will be the principal location of the expanding economy in Watauga County because of its highways and geographic location;

that the growing economy will create a demand for urban development within Boone's planning area;

that the Town of Boone will provide and extend water and sewerage facilities to meet demands of anticipated population and economy;

that Boone's government will support the orderly development of the town as conceived in the Development Plan;

that the legal tools for orderly development will be re-evaluated when necessary should new crises arise that may alter the Development Plan;

that Boone will obtain any financial assistance from State or Federal sources to aid in the implementation of the plan;

that civic pride will continue to prevail and the citizens will support the idea of a planned community;

that the growth of population will desire good urban development, urban services, and recreational facilities;

that Appalachian State University will not be able to build enough housing facilities to take care of the expanding enrollment; therefore, a need for multiple-family units and apartments will arise.

### The Planning Area

The planning area of Boone includes not only the area within its corporate limits but also the area within the territory extending for a distance of one mile beyond the town limits in all directions -- with the exception of the area north of Howard's Knob. The planning area has been determined in this fashion because State legislation allows the Town of Boone to control development through zoning in the one mile area beyond its corporate limits.

### Planning Time Period

The planning time period for the Development Plan includes those years up to 1990. This time period was selected because the population and economic projections were made for this period.

### Scope of the Plan

The scope of the Land Development Plan is limited primarily to general proposals for the physical arrangements of residential areas, industrial areas, commercial areas, and recreation areas. The sketch thoroughfare plan was drawn up to conform with existing and future land use proposals. The general location of the thoroughfare is indicated, but no attempt was made to estimate future traffic volumes.



# POPULATION AND ECONOMY

	1950	1955	1960	1965
1950 - 1955	1.2	1.5	1.8	2.1
1955 - 1960	2.1	2.4	2.7	3.0
1960 - 1965	3.0	3.3	3.6	3.9
1965 - 1970	4.0	4.3	4.6	4.9
1970 - 1975	5.0	5.3	5.6	5.9
1975 - 1980	6.0	6.3	6.6	6.9

The population of the United States in 1950 was approximately 150 million. By 1980, it had grown to over 220 million. This rapid increase in population has led to significant changes in the economy and the environment. The demand for resources such as food, water, and energy has increased, leading to the depletion of natural resources and the creation of new environmental problems. At the same time, the economy has grown, leading to the creation of new jobs and the improvement of living standards. However, the rapid growth of the population has also led to the concentration of people in urban areas, leading to the creation of new social and economic problems. The United States must find ways to manage its population and its resources in a sustainable way in order to ensure a bright future for all its citizens.





## POPULATION ANALYSIS

### Introduction

One of the most important considerations in preparing any kind of planning instrument is an analysis of the population. Careful population analysis and future projections allow the planner to identify those areas in which new facilities and services will be needed in future years. The characteristics deserving study include age, sex, racial composition, income, and education.

### Trends in Population Growth

Table 1 shows the percentage growth between census periods since 1910 for Boone, Watauga County, North Carolina, and the United States:

TABLE 1: POPULATION GROWTH TRENDS IN BOONE,  
WATAUGA, NORTH CAROLINA AND THE  
UNITED STATES, 1910 to 1970.

	<u>Boone</u>	<u>Watauga</u>	<u>N.C.</u>	<u>U.S.</u>
1910 - 1920	108.9	-.6	16.0	13.0
1920 - 1930	246.2	12.5	19.3	13.9
1930 - 1940	38.0	19.4	11.2	6.8
1940 - 1950	66.2	1.3	12.1	12.6
1950 - 1960	23.9	-4.6	10.9	16.0
1960 - 1970	137.5	33.5	10.4	11.8

Source: U.S. Census of Population

As can be seen in the table, the population of the town of Boone has experienced uninterrupted, though uneven growth since 1910, while Watauga County has experienced decades of population growth interspersed with decline. The population change for North Carolina and the United States has been characterized by a steady rate of growth. During the 20th century, the population of the Town of Boone has gradually accounted for a greater percentage of the total population of Watauga County. This figure has increased from approximately 1% in 1910 to almost 37.2 in 1970.

The population growth of Boone from 1960 to 1970 is especially important for planning purposes. The sudden increase in population from 23.9% during the fifties to 137.5% for the following ten year period can be attributed to the rapid growth of Appalachian State University, the

acquisition of outlying areas through annexation, industrial growth, and the recent boom in resort development.

Among these growth factors, none has been more important than the growth of the university. The enrollment of Appalachian State University increased from 2,370 in 1960 to 6,665 in 1970, a ten-year population increase of 4,295 persons.<sup>1</sup> Dr. Barry Elledge, Professor of Economics at Appalachian State University, has shown that the growth of the university accounted for approximately 74% of the growth of Watauga County from 1960 to 1970. His analysis is based on individualized studies of growth in the student, faculty, and staff sectors of the university. Though Elledge's specific figure on growth pertains to Watauga County, it can be safely assumed that the effect of the university's growth on the town of Boone is no less significant.

Annexation has brought many new people into the city. New industries such as Blue Ridge Shoe, International Resistor Corporation, and Shadowline have helped to provide a broader economic base. The development of resorts has spurred increases in lodging, restaurants, and related facilities, thus providing for added employment.

#### Characteristics of the Population

If the needs of the people of a community are to be planned for, it is first necessary to have a knowledge of the general characteristics of the population of that community. Specifically, the age of that population, the composite characteristics of sex and race, the income levels, and the educational attainment must be carefully considered before evaluating the community problems and formulating any planning goals in relation to future growth and development.

#### Age and Sex

Figure 1 shows the differences existing between the population age and sex structures of Boone and Watauga County. Figure 2 illustrates the population pyramid for the state of North Carolina and is shown for comparative purposes.

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1 Barry Elledge: "The Effects of Appalachian State University on the Economy of Watauga County."



FIGURE 1: AGE AND SEX STRUCTURE OF WATAUGA COUNTY POPULATION

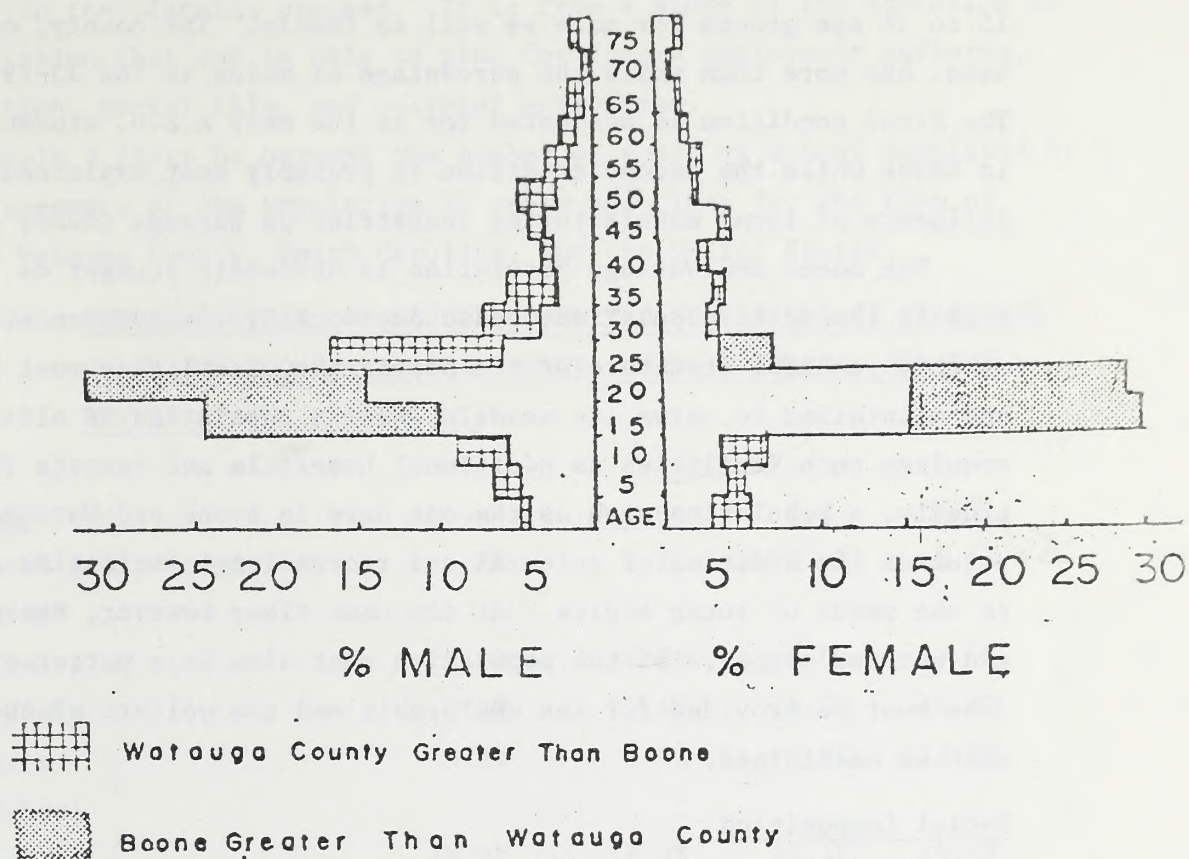
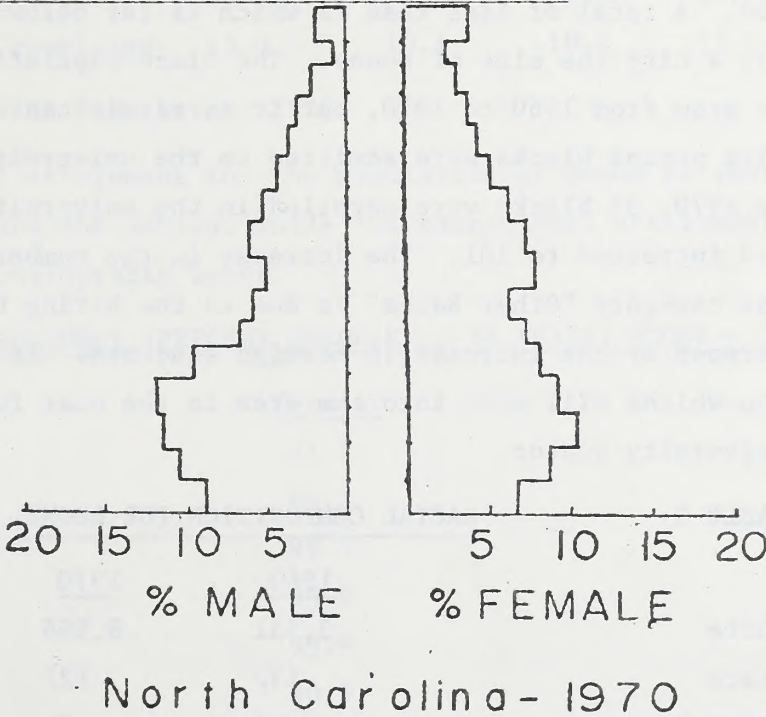


FIGURE 2: AGE AND SEX STRUCTURE OF NORTH CAROLINA POPULATION



As shown in Figure 1, there exists a great difference between the town and the county in the percentage of population falling within the 15 to 24 age groups for male as well as female. The county, on the other hand, has more than twice the percentage of males in the 25-29 age group. The first condition is accounted for by the many A.S.U. students living in Boone while the second condition is probably best explained by the influence of local manufacturing industries on Watauga County males.

The Boone and Watauga population is obviously younger on the average than is the state population, again due to A.S.U.'s influence. Because of this youthful structure of the population, facilities must be built and maintained to serve its needs. While a population of older people requires such facilities as additional hospitals and resorts for the elderly, a population such as the one here in Boone and Watauga County requires the addition of cultural and recreational facilities adapted to the needs of young adults. At the same time; however, the working and retired segments of the population must also be a matter of concern. Jobs must be provided for the employable and the welfare of the elderly must be maintained.

#### Racial Composition

Table 2 indicates that the percent of non-whites in Boone is very low. A total of less than 2% which is far below the national average for a city the size of Boone. The black population in the city failed to grow from 1960 to 1970, but it is significant to note that during this period blacks were admitted to the university for the first time. By 1970, 35 blacks were enrolled in the university and by 1972 the number had increased to 101. The increase in the number of persons falling into the category "Other Races" is due to the hiring by the university of such persons or the increase in foreign students. It is probable that more non-whites will move into the area in the near future, especially in the university sector.

TABLE 2: RACIAL COMPOSITION FOR BOONE.

	<u>1960</u>	<u>1970</u>
White	3,551	8,596
Black	132	127
Other Races	3	31

Source: U.S. Census of Population, 1970.



## Education

An analysis of the educational attainment of a population is significant in the planning process. It is from a study of the education of a population that one is able to plan for future employment patterns, recreation, social life, and cultural activities.

Table 3 lists by percent the number of years of school completed by given segments of the population 25 years and older for the town of Boone, Watauga County, North Carolina, and the United States.

TABLE 3: NUMBER OF YEARS OF SCHOOL COMPLETED BY PERSONS 25 YEARS AND OLDER FOR BOONE, WATAUGA COUNTY, NORTH CAROLINA, AND THE UNITED STATES BY PERCENT.

<u>Category</u>	<u>Boone</u>	<u>Watauga</u>	<u>N.C.</u>	<u>U.S.</u>
No school years completed	.2%	1.2%	2.0%	1.6%
Elementary				
1-4 years	2.0%	8.2%	8.0%	3.9%
5-7 years	9.4%	24.4%	18.3%	10.0%
8 years	5.2%	9.4%	8.8%	12.8%
High School				
1-3 years	17.2%	18.0%	24.4%	19.4%
4 years	32.4%	7.6%	8.5%	10.7%
Median school years completed	13.0	10.1	10.6	12.1

Source: U.S. Census of Population, 1970.

The educational attainment for the population of Boone is above that for both the state and the nation, while the educational attainment of Watauga County is considerably lower.

TABLE 4: SCHOOL ENROLLMENT (PERCENT ENROLLED 3-34 YEARS) BOONE - 1970.

<u>Age Group</u>	<u>Percent</u>
3-4	21.4
5-6	65.5
7-13	99.9
14-15	99.9
16-17	99.9
18-19	90.3
20-21	89.1
22-24	66.8
25-34	24.6
Total	80.7

Source: U.S. Census of Population, 1970.

The most notable feature of Table 4 is the relatively high percent in the initial age group, 3-4, enrolled in school, indicating the relative popularity of a kindergarten experience in the Boone area. The high percentage of students in the 18-24 age group is explained by the presence of Appalachian State University.

The public school system of Watauga County operates on the 8-4 educational system at the present time. There are eight elementary schools and one high school in the county. The current enrollment in the county's schools is approximately 4,700. A total of 3,300 of these children are enrolled in the elementary schools while 1,400 are enrolled in Watauga High School.

Though the increase in Boone's population over the last decade was impressive, the number of children enrolled in the county's schools did not increase at the same rate. The only overcrowded school in the county is the high school. A new senior high school based on the 6-3-3 educational system is currently in the planning stages. This school, to be completed by 1980, will have an enrollment capacity of 2,000 students. The current high school facility is expected to become a junior high school, in addition, one other junior high school will be built.

Based on a seven-year projection, the county school administration can foresee no other major school construction before 1980. The expected 1980 enrollment is estimated to be approximately 5,200 while the 1,990 enrollment will be 5,700. The county school system will continue to reduce the current teacher-student ratio of 1:22.

The university's growth rate is expected to decline gradually under a policy of controlled growth. The 1980 enrollment is expected to increase from the current 7,000 to around 10,000.<sup>1</sup> This will allow for some expansion in quantity while at the same time, emphasizing increasing quality of the student body.

#### Income

TABLE 5: INCOME OF FAMILIES IN BOONE, 1960 AND 1970.

<u>Income of Families</u>	1960	
	<u>Number</u>	<u>Percent</u>
\$ 0-2999	213	30.3
3000-5999	245	35.1
6000-8999	141	20.1
9000-over	70	13.3

<sup>1</sup> Campus Plan 10,000: Appalachian State University 11



1970

<u>Income of Families</u>	<u>Number</u>	<u>Percent</u>
\$ 0-2999	276	20.1
3000-5999	157	15.8
6000-8999	273	19.9
9000-14999	378	27.5
15000-over	232	16.8

Source: U.S. Census of Population, 1960, 1970.

Table 5 illustrates the income levels of families in Boone for 1960 and 1970. An obvious change during the 10-year period was the total number of families, which nearly doubled between 1960 and 1970, an indication of the tremendous growth in population which Boone experienced during that period of time.

The table indicates that incomes in Boone increased greatly from 1960 to 1970. While 65.4% of the city's families made under \$6,000 yearly in 1960, only 35.9% were in this category by 1970.

While fewer families found themselves making less than \$6,000 in 1970 than in 1960, one must remember that inflation has caused the national poverty level to rise from approximately \$3,000 to \$3,700. Inflation would tend to dampen the effect of this growth in income to some extent.

It is quite noticeable; however, that many more families were making in excess of \$9,000 in 1970 than in 1960, which is explained in part by an increasing faculty at the university and the ever-increasing salaries paid to them. Growth of industry and resort development has also led to an increase in total employment and thus an increase in incomes. In addition, the overall rise in wage standards has helped to put more families in the upper income brackets.

Median income also relates to any analysis of income levels. The median income increased from \$4,403 in 1960 to \$7,883 in 1970, illustrating the elevation of the economic level of the town of Boone.

The relatively high proportion of families whose income falls below the poverty level should be addressed by the planning program. Obviously, these people have not been able to benefit from the substantial economic growth of the past decade. For these people, particular attention by municipal authorities needs to be taken in the areas of health, education, and housing.

### Population Projections

The method used to project future growth in the population of Boone involves the use of past trends as well as probable future expectations concerning natural increase and net migration. Past trends are identified by taking a moving average of past growth. This involves plotting the population data and connecting the points for each tri-decade period beginning with 1910-1930 and moving forward in time. (For example, the next tri-decade line would connect the points representing 1920 to 1940 averages.) By analyzing births and deaths for the city over the past four decades, one is able to determine to some extent the current trends in natural increase. By subtracting the natural increase from the population change during a ten-year period, one is able to evaluate net migration. This allows the planner to develop a population forecast pertaining to the area in question.

In forecasting future population, the planner should provide a high, medium, and low estimate in order to insure that the needs of the future population be met. The high estimate is predicted upon maximum estimates of future annexation, continued growth of the university, industry, and resort development. The low estimate is based upon no future annexation and no growth in the university, industry, or resort development. The median estimate is calculated on the premise that moderate annexation will occur in the future, and that some growth will occur in the university, industry, and resort development.

According to the median growth projection, the population of Boone will reach 13,100 by 1980, 17,400 by 1990, and 21,000 by 2000. The high and low estimates may be found in Table 6.

Using a slight variation on this method, the future population of Watauga County can be estimated. The difference in projecting population for Watauga County lies in the fact that annexation cannot be considered as a growth factor. According to this method, Watauga County's population will reach 27,900 by 1980, 31,800 by 1990, and 36,000 by 2000. High and low estimates for the county may be found on Table 6.



TABLE 6: POPULATION PROJECTIONS FOR BOONE AND WATAUGA COUNTY FOR 1980, 1990, AND 2000.

		<u>1980</u>	<u>1990</u>	<u>2000</u>
Boone	High	15,200	27,500	46,000
	Median	13,100	17,400	21,000
	Low	9,300	10,000	10,700
Watauga	High	31,900	41,900	55,500
	Median	27,900	31,800	36,600
	Low	25,000	26,800	28,800

#### SUMMARY AND CONCLUSIONS

Appalachian State University has been the primary factor in the phenomenal growth of Boone during the past decade. Annexation, industrial growth, and resort development have also been important factors in this growth.

The growth of the university has meant a tremendous increase in the 15-30 age group of Boone. This increase in the number of young people has made it essential for Boone to plan future growth and development around this segment of the population. This development must include the provision of youth-dominated cultural and recreation facilities.

The number of non-whites in Boone's population is extremely small. Most of the growth in the non-white sector of the population has been associated with the university. Amenities such as better housing and increased job opportunities must be provided for this segment of the population.

The high level of educational enrollment of the present Boone populace must be maintained. Public schools must be maintained and new facilities built to meet the demands of the growing population. Appalachian State University must work in conjunction with the city and the county in maintaining high overall educational standards.



The problems of low income families must be a constant concern of the city. The health, education, and housing of these people must be improved. Improvements in those areas will help to prohibit future outmigration.

Population projections for Boone indicate steady growth over the next three decades. It is vital, in planning for the area, that this increase be accompanied by an increase in the number and type of services and amenities offered by the area. It is essential in formulating a plan for Boone and Watauga County that all segments of the population be considered.

## ECONOMIC STUDY OF BOONE

The following areas of study have been researched within this report: 1) the position of Appalachian State University within Boone's economic sector, 2) the economic growth of Boone as seen through the use of graphs using building permits issued 1963-1973\*, 3) Boone's economy as viewed through economic base analysis (explained later in this report), 4) Boone's economy as seen through standard statistical data (total employment, nonworker/worker ratio, and unemployment figures), 5) the impact of four industries on the economy of Boone, and 6) the interrelationships of the various sectors of Boone's economy.

The above areas of research are intergrated and future trends discussed within the last portion of the study.

### Appalachian State University

When viewing the economic sector of Boone, one cannot be less than overwhelmed by the dominating position which Appalachian State University maintains. As will be shown, the university is indeed the hub of Boone's economic sector.

The town of Boone looks to A.S.U. as one of its major sources of employment. The university employed 905 faculty and staff members during 1970-71. Table 7 gives projected faculty and student totals for the period 1973-81.

TABLE 7: PROJECTED FACULTY AND STUDENT TOTALS, 1973-81.

#### INCREMENTAL ENROLLMENT PROJECTIONS FOR APPALACHIAN STATE UNIVERSITY WITH PROJECTED SUPPORTING FACULTY AND STAFF SIZE

<u>Median Projection Date</u>	<u>1973</u>	<u>1980</u>
Student Population Projection	8,000	10,000
Desired Faculty/Student Ratio	1:14.5	1:13.5
Projected Faculty Size	551	740
Desired Staff/Student Ratio	1:11.0	1:11.0
Projected Staff Size	725	1,000
Total University Population	9,276	11,740

Source: Campus Plan Proposal for 10,000 Enrollment, ASU table II-B, p.15

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\* Excludes 1966

The monetary impact of A.S.U. on Boone's economy can be inferred from the following excerpt taken from a study by Dr. Barry Elledge, Professor of Economics at A.S.U.:

In 1965 university-related local business volume was \$12,824,000.00, this being the sum of local expenditures by the university, faculty, staff, students, and university-related visitors. The local business volume, being the sum of retail sales, wholesale sales, and value added in manufacturing, was \$67,216,000.00. A.S.U. related business accounted for 19% of the total business volume of Boone's economy.<sup>1</sup>

The previously mentioned economic influences can be directly measured. Yet, one of A.S.U.'s major contributions to Boone cannot be directly measured - the stabilizing influence upon Boone's economy.

#### Building Permits (1963-1972)

Building permits provide a way to analyze the amount and type of economic growth in an area. For the purpose of this analysis building permits were obtained for the period 1963-1972 (1966 is excluded) and were grouped into the following categories: 1) apartments (including repairs and renovation costs), 2) motels (also including repairs and renovation costs), 3) tobacco warehouses, manufacturing industry, and tourist enterprises, 4) service industries such as restaurants, theaters, stores, service stations, and other basic activities, 5) residential.

TABLE 8: TOTAL YEARLY VALUE OF BUILDING PERMITS ISSUED FOR APARTMENT, 1963-1972.

Apartments	
<u>Year</u>	<u>Total Value</u>
1963	\$ 174,000
1964	99,500
1965	105,000
1967	173,000
1968	258,000
1969	4,000
1970	142,000
1971	600,000
1972	1,413,000

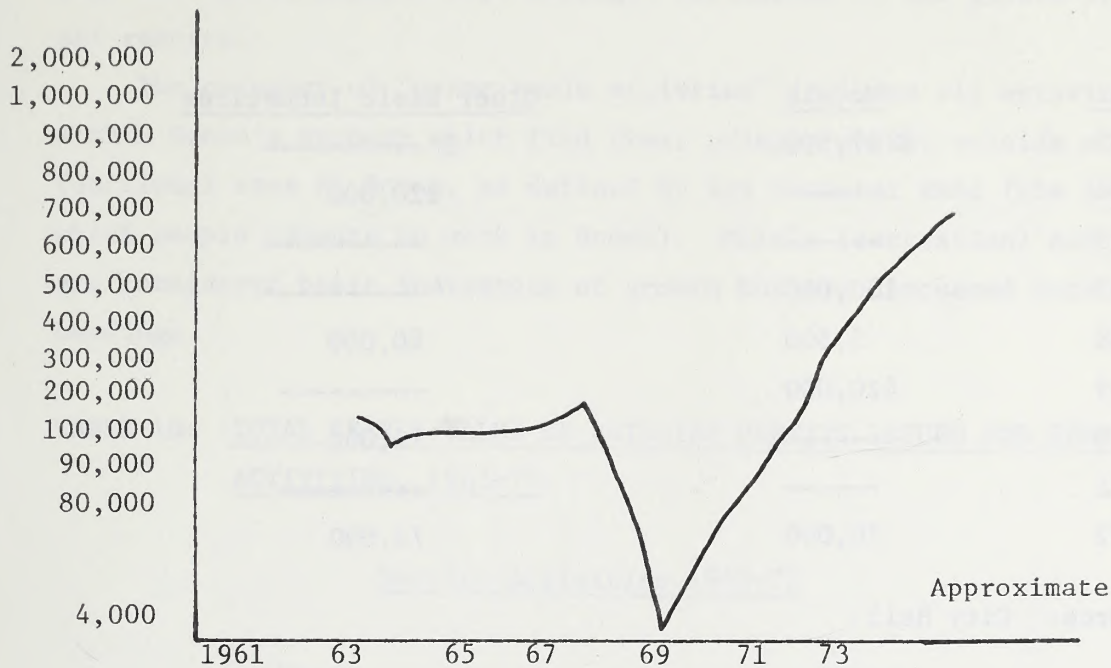
Source: City Hall

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1 A.S.U. Fact Book 1971-72, Office of Institutional Research and Development, p. 23.



FIGURE 3: TOTAL YEARLY VALUE OF BUILDING PERMITS ISSUED FOR APARTMENTS,  
1963-1972.



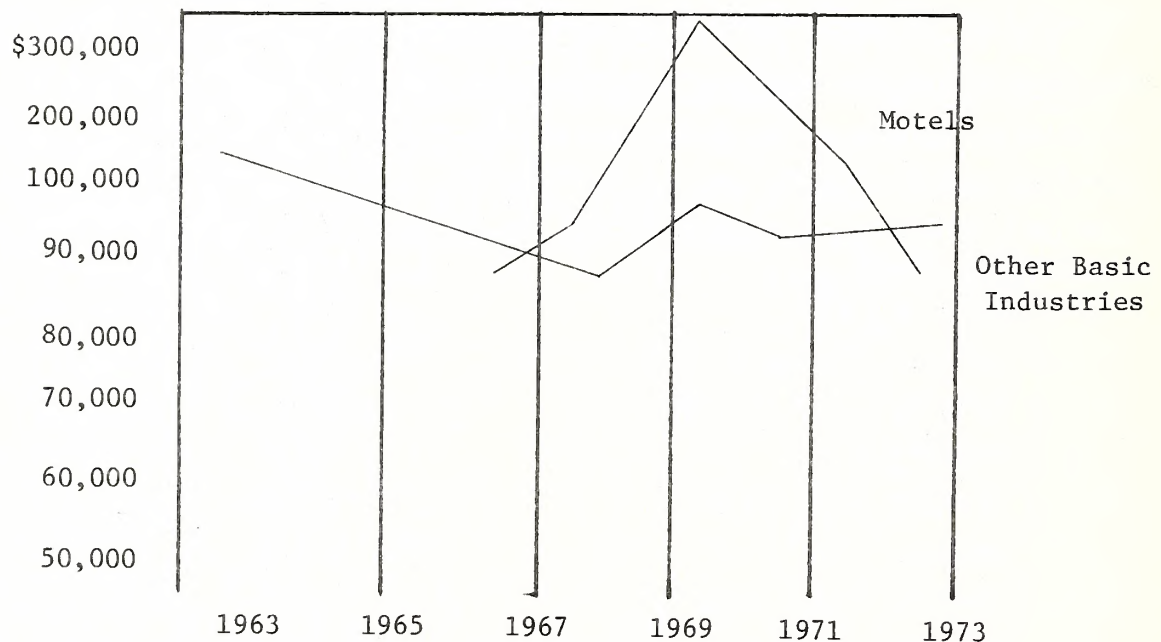
The large number of building permits issued for apartments, 1963-1972, was strongly influenced by the presence of A.S.U. Rapid expansion of university enrollment is reflected in the rapid increase of issued apartment building permits during the period 1970-72. This rate of growth is not seen as continuing, basically due to the university's present policy of stabilizing enrollment.

TABLE 9: TOTAL YEARLY VALUE OF BUILDING PERMITS ISSUED FOR MOTELS  
AND OTHER BASIC INDUSTRIES, 1963-72.

<u>Year</u>	<u>Motels</u>	<u>Other Basic Industries</u>
1963	\$ 97,500.	\$ -----
1964	-----	220,000
1965	-----	-----
1967	150,000	-----
1968	5,500	80,000
1969	420,000	-----
1970	-----	75,000
1971	-----	-----
1972	70,000	72,000

Source: City Hall

FIGURE 4: TOTAL YEARLY VALUE OF BUILDING PERMITS ISSUED FOR MOTELS  
AND OTHER BASIC INDUSTRIES, 1963-72.



Source: City Hall

The figures in table 9 represent investments which are highly correlated to the increasing role of recreation within the Boone economy. Motel permits were strongly influenced by the growth of local ski resorts.

The category of "other basic activities" includes all activities within Boone's economy which find their primary market outside of the functional area of Boone, as defined by its commuter shed (the area within which people commute to work in Boone). Motels (recreation) and apartments are considered basic indicators of growth but are discussed under separate headings.

TABLE 10: TOTAL YEARLY VALUE OF BUILDING PERMITS ISSUED FOR SERVICE ACTIVITIES, 1963-72.

Service Activities 1963-72

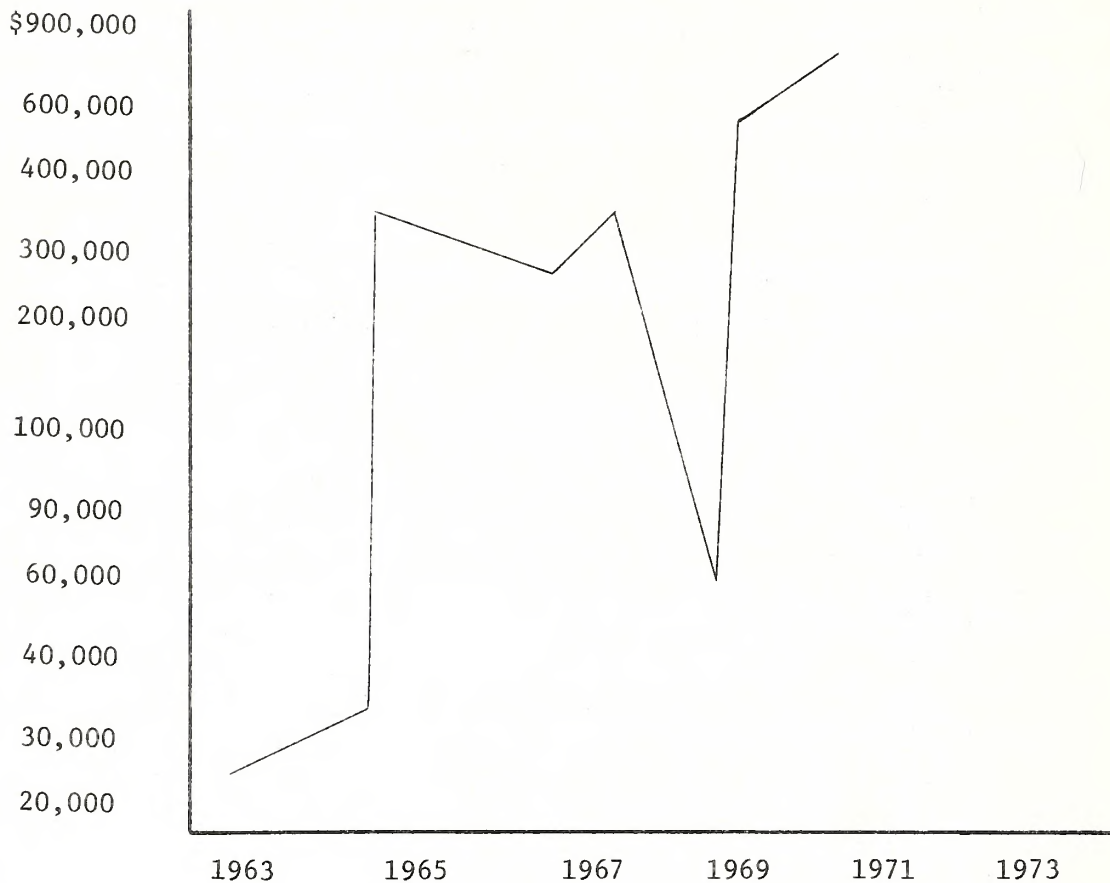
<u>Year</u>	<u>Value</u>
1963	\$ 35,000
1964	40,000
1965	497,300
1967	375,200
1968	508,000
1969	112,400
1970	766,000
1971	1,261,413
1972	1,340,650

Source: City Hall

Table 10 shows the value of service permits issued from 1963-72. Growth in this sector can be attributed to two local activities: increased enrollment at Appalachian State University and resort development. A major attribute to Boone's service industries has been an increase in the types of services and commodities offered. As the university's enrollment levels off, the service sector will become more important to Boone's economic development.



FIGURE 5: TOTAL YEARLY VALUE OF BUILDING PERMITS ISSUED FOR SERVICE ACTIVITIES, 1963-72.



Source: City Hall

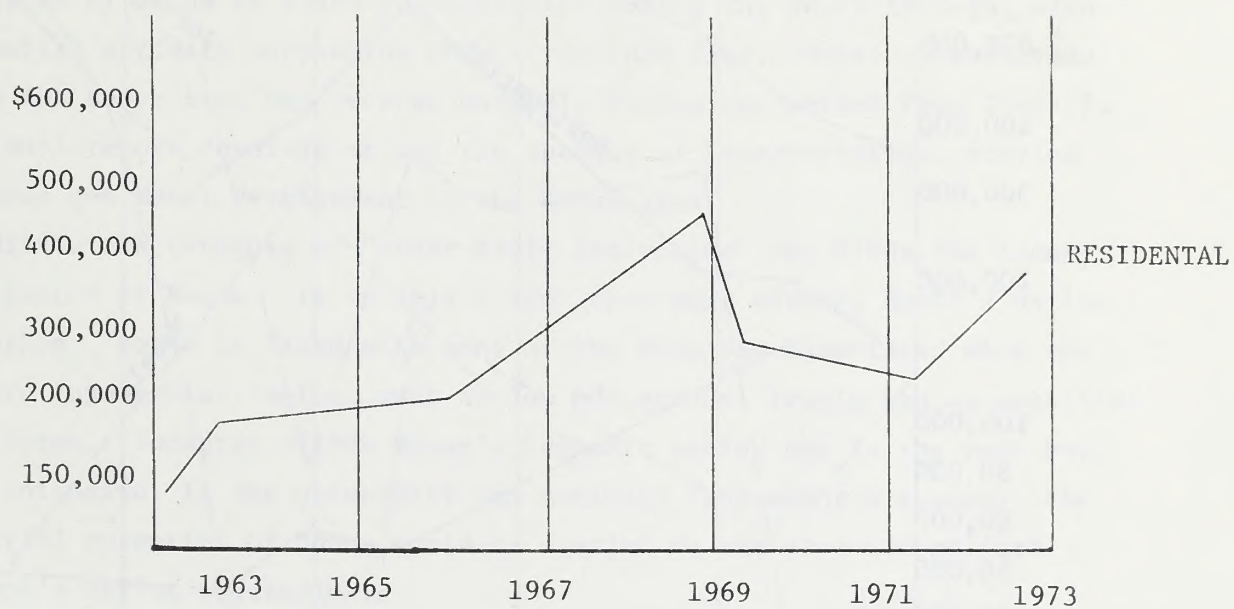
TABLE 11: TOTAL YEARLY VALUE OF RESIDENTIAL BUILDING PERMITS, 1963-72.

Residential Building Permits, 1963-72

<u>Year</u>	<u>Cost</u>
1963	\$ 193,400
1964	276,100
1965	298,500
1967	675,700
1968	1,051,600
1969	653,050
1970	510,200
1971	711,500
1972	1,107,000

Source: City Hall

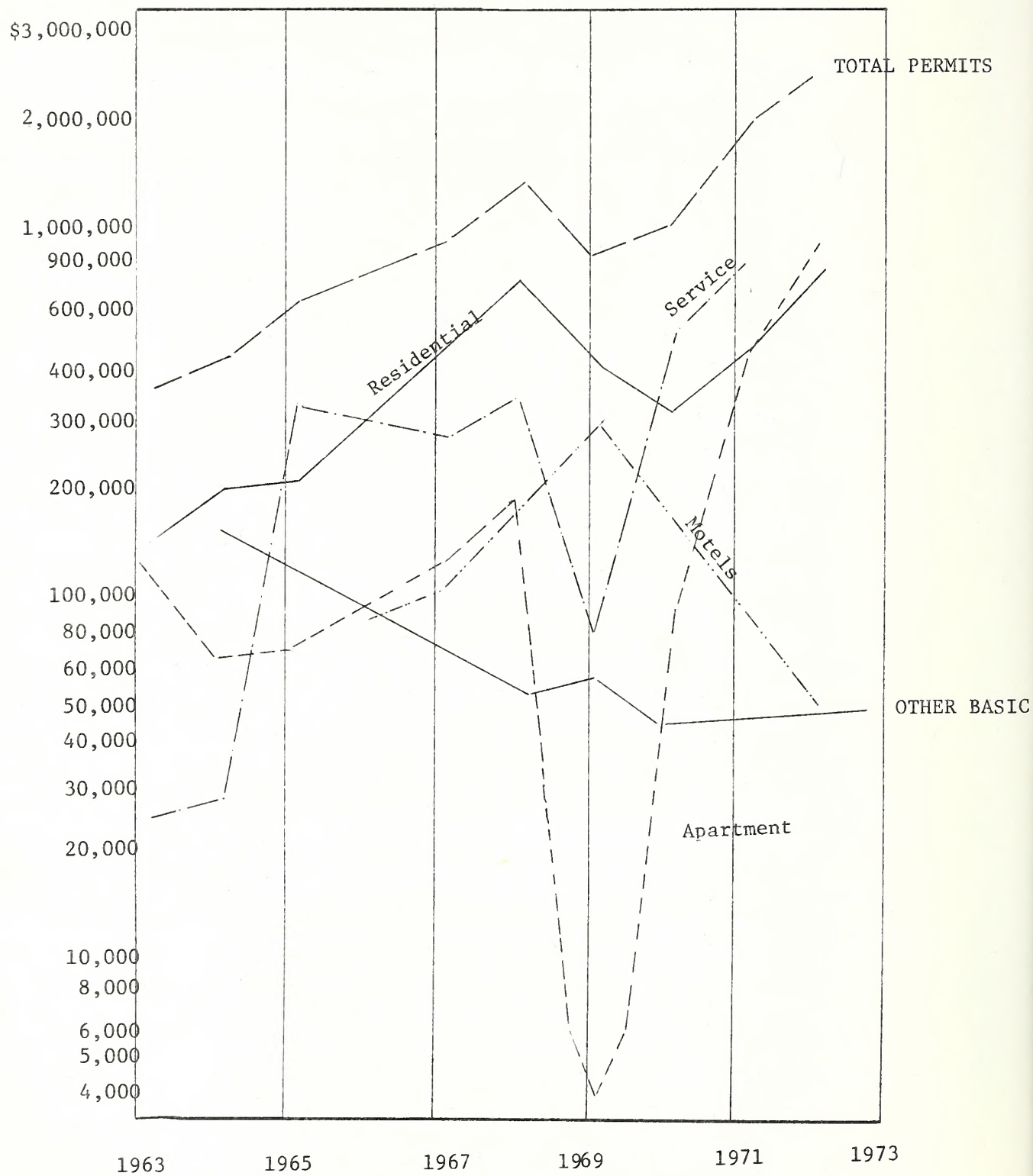
FIGURE 6: TOTAL YEARLY VALUE OF RESIDENTIAL BUILDING PERMITS, 1963-1972.



Source: City Hall



FIGURE 7: TOTAL BUILDING PERMITS ISSUED 1963-1973



Source: City Hall

Table 11 shows the total costs of residential building permits from 1963 to 1972, excluding 1966. A major factor behind residential development during the 1963-72 period is the university's growth. Growth in the service sector has also been a factor in increasing residential development in Boone. Growth in the service sector is directly proportional to residential development. This means that an increase in services demands an increase in employees in that sector, resulting in increased residences within a community.

A complete picture of Boone's economic growth (1963-72), as well as future projections, can be determined from Figure 10. One is quick to notice the alternation of occurrence between service and residential peaks. If this pattern continues, one would expect growth within the service activities of Boone to reach stabilization during the years 1973-75, with residential activity surpassing them after that date. Motel construction within the Boone area has dropped markedly during the period from 1969-72. Additional resort development and the opening of transportation arteries will spur new motel development in the Boone area.

Within the category of "other basic activities" one finds the industrial sector of Boone. It is this sector that most effects Boone's native population. Boone is faced with many of the problems associated with the Southern Appalachian region, such as low educational levels and an unskilled labor force. Industry within Boone's economic sector has in the past been labor intensive. If the university was excluded from Boone's economy, the industrial potential of Boone would be crucial to the economic welfare of Boone's native population.

From this analysis one may draw the conclusion that apartments, service, motels, and residential sectors are on the increase in Boone. These uses will require much vacant land in the area. Boone should take the necessary steps to insure that this growth will occur in the proper places and in such a way that it does not become a problem to the community. Steep slope development should be carefully controlled to avoid excessive erosion and sedimentation. Commercial strip development should be discouraged with provision made for clustered commercial and CBD upgrading. These measures will be discussed later in this report.



## Introduction to Economic Base

Economic base theory conceives the economy of a region to be composed of two segments. These two activities are: 1) Basic - those which find their primary market outside of their locally defined economic area, 2) Nonbasic - those which are service activities, which find their primary markets within their local economic area. Economic base stresses local economic growth as being dependent upon the localities's basic activities. Basic activities are the primary source of additional capital to the local economic structure. This study illustrates that basic activities are primary indicators of economic growth: past, present, and future. Basic activity in this study shall be expressed as a basic/non-basic worker ratio. This ratio shall be derived by placing employment totals in Boone's basic activities over those of its nonbasic total. A constantly rising basic/nonbasic worker ratio shall be viewed as an indication of external economic growth.

The following industries have been singled out as the major basic industries of the Boone area; Blue Ridge Shoe, International Resistor Corporation, Shadowline, and A.S.U. These industries lie within the Boone city limits and have a total employment of over 2,900 employees.

## Commuter Shed

The distances that people commute to work can be expressed by the concept of the commuter shed. Figure 11 illustrates a representative sample of the commuter shed of Boone. These figures represent 1,900 of Boone's 2,929 total commuters. Of this sample, 1,630 commuters are directly involved in basic activities.\*

This base study supports the belief that the functional area represented by the commuter shed lends itself to a more economically functional area, for the purposes of planning, than that represented by the home addresses of students at A.S.U. This area delineated in figure 11 shall be the local economic area used in this Economic Table 12.

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\* Watauga County Hospital was included in the sample.

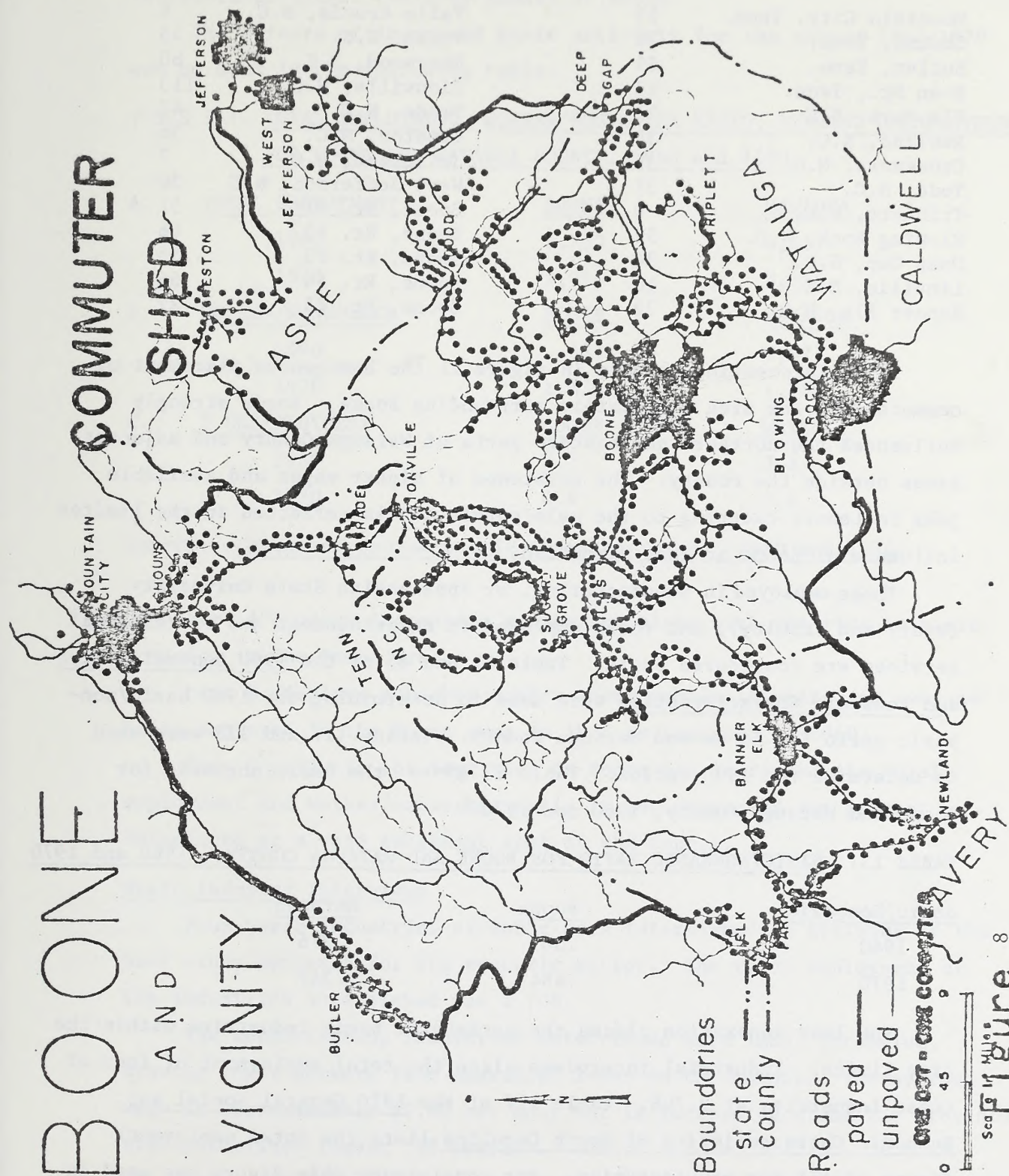
# BOONE

AND

# VICINITY

# COMMUTER

# SHED



8

Figure



TABLE 12: Totals for the Boone Commuter Shed.

Mountain City, Tenn.	55	Valle Crucis, N.C.	4
Shouns, Tenn.	36	Vilas, N.C.	45
Butler, Tenn.	59	Sherwood, N.C.	80
Roan Mt., Tenn.	13	Zionville, N.C.	113
Elk Park, N.C.	51	Trade, N.C.	47
Newland, N.C.	38	Creston, N.C.	38
Crossnore, N.C.	35	Jefferson, N.C.	7
Todd, N.C.	37	West Jefferson, N.C	30
Triplett, N.C.	6	Boone, Rt. #1	51
Blowing Rock, N.C.	52	Boone, Rt. #2	66
Deep Gap, N.C.	34	Boone, Rt. #3	56
Linville, N.C.	10	Boone, Rt. #4	56
Banner Elk, N.C.	72	Boone, Rt. #5	22

It is interesting to note in figure 11 the homogenous placement of commuters in the area immediately surrounding Boone. Boone strongly influences the northern and eastern parts of Watauga County and adjacent areas outside the county. The existence of higher wages and available jobs in Lenoir catering to the male population is reflected in the limited influence of Boone in that direction.

Those employed in manufacturing, by Appalachian State University (staff and faculty), and those employed in entertainment and recreational services are considered basic. Table 81 and 85 of the 1960 General Social and Economic Characteristics were used in determining the 1960 basic/non-basic ratio for Boone and Watauga County. Tables 117 and 123 were used to determine the 1970 ratios. Table 13 gives the basic/nonbasic for Boone and Watauga County, 1960 and 1970.

TABLE 13: BASIC/NONBASIC RATIO FOR BOONE AND WATAUGA COUNTY: 1960 and 1970

<u>Basic/Nonbasic</u>	<u>Boone</u>	<u>Watauga</u>
1960	.567	.276
1970	.484	.347

The last annexation placed the peripheral basic industries within the city limits. Industrial interviews place the total employment of four of these industries at 2,708. Table 117 of the 1970 General Social and Economic Characteristics of North Carolina lists the total employment figure of 471 for manufacturing. For consistency this figure was used in deriving the basic/nonbasic figure for Boone, 1970. This figure excludes the bulk of Boone's basic employment -- that region located within its periphery. The increase in the basic/nonbasic ratio for Watauga County,

1960-1970, infers growth within the industrial sector which is now incorporated within the city limits of Boone.

The effects of increased basic activity for the period 1960-1970 can be seen in the following table:

TABLE 14: TOTAL EMPLOYMENT, WORKER/NONWORKER RATIO, PERCENT UNEMPLOYMENT FOR BOONE AND WATAUGA COUNTY, 1960 and 1970.

A.	<u>TOTAL EMPLOYMENT</u>	<u>BOONE</u>	<u>WATAUGA</u>
	1960	1,250	4,447
	1970	2,926	8,356
B.	<u>WORKER/NONWORKER</u>	<u>BOONE</u>	<u>WATAUGA</u>
	1960	.677	1.027
	1970	1.850	1.880
C.	<u>% UNEMPLOYMENT</u>	<u>BOONE</u>	<u>WATAUGA</u>
	1960	5.2	3.2
	1970	4.4	3.4

Source: Census of Socioeconomic Characteristics, 1960 and 1970.

Part A depicts increasing employment along with the rise in basic activity in the Boone area.

Part B displays a higher number among people 16 years and over as being employed in the Boone area in 1970 as compared to 1960.

Part C reflects the fact that as Boone has increased its total employment and worker/nonworker ratio it has decreased its percent unemployed at a rate exceeding that of the county.

#### Basic Industry Interviews

Four basic industries of Boone were interviewed in arriving at the base study approach for the economic sector. The total employment of the industries interviewed was 2,708.

The manufacturing industries interviewed were labor intensive, drawing their workers from unskilled labor in the county. The average wage is approximately \$2.60 per hour but is increasing along the presidential guidelines (about 5½% yearly).

There was only a slight chance for physical expansion in one of these manufacturing industries. Two of the industries mentioned a possibility of a small amount of employment expansion. The university expects expansion but at a declining rate.



One interviewee suggested that there was no need for any new industries in the area because the available labor has been depleted, while another stated that there was a need for another industry in Boone to keep the male population from commuting to jobs in Lenoir.

All of those interviewed expressed a desire to work with the university in problems they encountered.

#### OVERVIEW AND PROJECTIONS

Boone's economic vitality has been presented through statistical and research methods. After compiling and weighing the data of the preceeding units, these major economic factors must be stressed:

- 1) A.S.U. has been the key to Boone's economic livelihood.
- 2) Increases in apartment construction, service activity and residential development are due mainly to the growth of the university.
- 3) Within Boone's economy "other basic activities" have not developed from 1963 to 1972 at a rate comparable to overall economic growth.
- 4) Basic/nonbasic ratios obtained for the years 1960 and 1970 show trends of basic development within Boone's economy.
- 5) Total employment, and worker/nonworker ratios increased from 1960 to 1970.
- 6) Unemployment for the above period has decreased in Boone.
- 7) The major concerns of the industries interviewed centered upon problems of transportation bottlenecks and the labor composition (emphasizing sex ratios).
- 8) Concerning possible expansion, Shadowline expressed the desire to increase total employment by fifty. IRC mentioned a physical expansion and the possibility of 100 additional jobs. (Possible physical expansion estimated to be \$75,000.)\*
- 9) There exists a need for research into the industrial sector of Boone to determine trends with which future employment and industrial needs can be projected and planned for.
- 10) There exists a strong division between the human resources utilized by the university and those human resources used by other basic activities. It is felt that the gap should be closed between the skilled and the unskilled, the educated and the uneducated.

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\* Obtained from building permits issued

The university has been the key to Boone's total economic growth. However, manufacturing industries have remained the key to native economic success. The university has been the multiplier within Boone's economy, and the implementation of a university growth stabilization policy will cause repercussions within Boone's economic framework. Appalachian State University; however, will retain its present role as the major economic stabilizer of Boone's economy for the foreseeable future.

Prior to annexation there was no major industrial development within Boone's city limits for the previous ten year period. Though Boone's unemployment rate has continually declined during the past ten years, largely due to expanded university functions and present service growth, it remains 4.4%.

It is felt that the dual nature of newly established service activities in Boone will provide economic vitality. Though promoting economic growth, service activities present a problem in that they characteristically draw predominantly upon female employment. Due to this situation, there exists a need for employment opportunities for the male population of Boone. An industrial recruitment program in cooperation with Watuaga County should locate industries which will have the capacity to attract and employ the male populace of Boone and the County.

There exists a strong need for Boone to coordinate the various activities of its economy. At the present time due to the probability of university growth stabilization, it is felt that building permits for apartments should be issued at a rate which corresponds to university and total economic growth to avoid overburdening in this sector. The service sector establishments should meet the locational and design criteria required by Boone or not be issued a building permit. Industrial sites should be identified and reserved for new plants locating in the area. The retail, residential, service, and industrial sectors of Boone have all exhibited growth during the last decade. Boone should control the location and design of these facilities with the idea of making the area a more aesthetically pleasing and economically balanced area. Flood plain, commercial, residential, and industrial zoning will be useful in guiding the quality and location of the future growth of Boone.



## COMMUNITY SERVICES

An analysis of the community services of the Boone area will reveal whether or not the services are adequate, and changes necessary to rectify existing or future problems. These recommendations will be based on continued growth in the population of Boone which will require improvement of local community services.

### Police Department

The Boone Police Department consists of ten police officers and the chief of police. The area now served consists of the city limits of Boone but sworn deputies can go into the county in the pursuit of police business.

Goals for 1973 as given by the Police Department are:

1. Improve standards for hiring police officers.
2. Intensify training program.
3. Improve safety standards for all officers.
4. Improve upon patrol effectiveness.

In making an overview from a preliminary analysis, it seems as though Boone does have adequate police protection at present. With increasing population in the area; however, comparable increases in men and equipment must be made.

### Recommendations:

The added population by the year 1980 will facilitate an increase in the needs of the Boone Police Department. This increase should be in the form of seven more full time officers, and two more vehicles. Due to the added population growth, it is to be expected that there will be an increase in the number of crimes reported. For this reason the additional services of at least one full time detective should be available by the year 1980. In addition, action should be taken to develop, improve, and expand facilities for the city jail and the police department.

### Fire Department

The town of Boone now has 30 volunteer firemen (maximum allowed by the state) and four trucks: 1,000 gallon pumper, 5,000 gallon pumper, 250 gallon pumper, and a tanker. The town of Boone owns the equipment and furnishes other necessary items while the county pays subsistence for its serving the county area beyond the city limits. In June, 1974 a new 1,000 gallon pumper was added to the department. The fire department is presently capable of handling only two-story fires. Projected expansion of the fire

department in the very near future involves the construction of a new building located adjacent to the Blowing Rock Road but within the city limits.

#### Recommendations:

The most important step to be taken in the near future concerning fire facilities in Boone should be a joint responsibility by the town and Appalachian State University. Since the present fire department cannot handle any major fire in a building more than two-stories high, it should be the responsibility of the university to share in the cost of providing this protection. Student dormitories presently have up to nine floors. Due to the steady increase in population it is recommended that a municipal fire department be established on a permanent basis. This fire department should be a joint venture by both the town and the school, with sufficient capability to protect any high-rise building located at Appalachian State University. This joint venture should employ at least four full time men plus the maximum 30 volunteers allowed by the state of North Carolina. By the year 1980, with the added population, it is recommended that the volunteer status of the fire department be disbanded and a permanent municipal fire department be established to keep pace with population increases and new construction.

#### Health

The health of the people of Boone and Watauga County is in general considered to be good. The County Health Department reports that there are few health problems in the county in proportion to its size. The biggest health problem at the present time appears to be venereal disease, centered, for the most part, in and around the university. A second problem is a shortage of general practitioners which could become acute in the near future.

There are two hospitals in the county - one in Boone and the other in Blowing Rock. The hospital in Boone has 83 beds while the Blowing Rock hospital has 32 general hospital beds and 64 extended care beds. Neither hospital is overcrowded at the present time, but expansion of the present facilities will be mandatory in the future. Within the next 10 years there should be an increase of 50-80 additional beds at the Watauga County Hospital, with further increases as the population grows.



The Watauga County Health Department has a regular staff consisting of two full-time and three part-time sanitarians, two registered nurses, a licensed practical nurse, two secretaries, a three-county nursing supervisor, and a dog warden. Additional office facilities in the County Health Clinic are needed to upgrade the service in this facility.

The Boone landfill is adequate at the present time, but will require expansion by 1980 to keep pace with the needs of Boone.

Recommendations:

Within the next 10 years the public and mental health facilities be moved to the Watauga County Hospital so that better service can be rendered to the citizens of the immediate Boone area. Plans should also be directed toward increasing the present landfill area or selecting an entirely new site.

WATER AND SEWER SERVICE

I. Water Requirements

Water shortages have been faced frequently by the Boone area. In the past four years to six years drastic changes have occurred, and a new plan has been prepared by the Watauga County Board of Commissioners and the Watauga County Planning Board. In this plan, population forecasts have been predicted to the year 1987, and the plan has been projected on these population figures. This growth forecast is well above the population figure projected by this study and thus it can be assumed that the water potential for the Boone area has adequately been planned for. A summary for water demand is contained in Table 16.

TABLE 16: PROJECTED WATER DEMANDS: BOONE PLANNING AREA

<u>Year</u>	<u>Population</u>	<u>Av. Daily Demand</u>	<u>Max. Demand</u>	<u>Fire Flow</u>	<u>Total</u>
1970	16,500	1,815,000	2,995,000	2,400,000	5,395,000
1980	24,000	2,880,000	4,752,000	3,000,000	7,752,000
1990	32,100	4,160,000	6,864,000	3,300,000	10,164,000

Source: Watauga County Comprehensive Study

Major points in the plan are as follows:

The town of Boone has recently completed expansion of Winklers Creek Reservoir to a one million gallon a day safe yield. A one million gallon storage system was also built north of the downstream system.

Appalachian State University is now developing a four million gallon supply from Howards Creek.

Water resources are available and the existing facilities can be expanded on a permanent basis without resorting to extensive new systems.

The major problem to be overcome is organization of an area authority to eliminate diversification of services.

Expansion of the Norris Branch Water Purification Plant will be required about 1978. Expansion will bring the plant to a capacity at M.G.D. (million gallons daily) or a total area supply at 5.2 M.G.D. Between 1980-1990 a new source of raw water must be developed again increasing plant capacity at Norris Branch from 4 M.G.D. to 8 M.G.D.

The Norris Branch raw water holding reservoir will have an ultimate capacity of 340 million gallons.

The building of a multi-level distribution system.

Most desirable new source is the Meat Camp Creek watershed. This could deliver a minimum of 4 M.G.D. raw water supply to the Norris Branch Raw Water Holding Reservoir. These two sources would supply at least 20 M.G.D., an adequate supply for the future while providing additional recreational facilities.

By the year 1990 this plan should be in operation. Until that time deficiencies in the water supply will come from the various wells owned by both the university and the town. The operation of the wells should cease by 1990 as more adequate and safer water will be available. Water resource development should be undertaken as a joint venture between Boone and A.S.U. to prohibit duplication of services.

As water becomes more available it will also be the responsibility of this joint venture to adapt the network of water lines to changing land uses within the Boone planning area. Increased land use on Highway 421, east and west of Boone, Highway 321 toward Blowing Rock, and 105 toward Banner Elk will result in the need for new or more intensive water main development. All areas within the Boone planning area will experience land use change and the need of water facilities will be greatly increased by the year 1990.



## II. Sewage Requirements

The Boone planning area is now served by a new sewage treatment plant located on the South Fork New River, with a capacity at 1.8 M.G.D. wastewater from Boone and Watauga County is treated at this facility. The Watauga County Comprehensive Study listed the 1970 population of Boone (mile perimeter included) as being 16,500. Since, according to the North Carolina Division of Environmental Management, the average person disposes 125 gallons of raw sewage per day, wastewater treatment needs total approximately 2,062,500 gallons daily. This means that the amount of raw sewage that could be treated properly in 1970 was 262,500 gallons at present capacity by 1980 over 122 million gallons of raw sewage could not be handled properly, with the figure reaching 2,212,500 gallons by 1980. These projections do not include the eastern section of Watauga County which also uses the sewage facility.

TABLE 17: SEWAGE REQUIREMENTS FOR BOONE PLANNING AREA WITH 1.8 MILLION GALLON TREATMENT PLANT.

<u>Year</u>	<u>Population</u>	<u>Average Daily Sewage</u>	<u>Deficiency</u>
1970	16,500	2,062,500	262,500
1980	24,000	3,000,000	1,200,000
1990	32,100	4,012,500	2,212,500

### Recommendations:

The sewage situation must be dealt with quickly before it worsens. In 1970, too much raw sewage was being removed from the area without treatment. As outlined in the Watauga County Comprehensive Study, conversion of the 1.8 million gallon treatment plant to a 3.6 million gallon system would only require additional filter capacity and some internal changes.

TABLE 18: SEWAGE TREATMENT CAPACITY WITH 3.6 MILLION GALLON TREATMENT PLANT.

<u>Year</u>	<u>Population</u>	<u>Average Daily Sewage</u>	<u>Deficient</u>
1980	24,000	3,000,000	---
1990	32,100	4,012,000	412,500

This change should occur immediately in order to stop the dumping of raw sewage into the New River. Even with this expansion, the plant will be near capacity by 1980. A 208 study should be initiated to plan new wastewater treatment facilities to increase sewage treatment capacity

to at least 8 million gallons per day. Sewage lines should be added in the urbanizing areas east and west along Highway 421, southeast along Highway 321, and southwest along Highway 105. Raw sewage pumped untreated into the New River has very serious environmental implications. By immediate action to enlarge the present waste sewage capacity at the New River Treatment Plant these problems can be eliminated and new growth may be safely accomodated. Industrial recruitment and annexation plans will be hampered as long as the present situation is allowed to continue.

### The Forces Shaping Development

Almost every major city in the United States owes its birth to some natural or man-made feature. Some cities developed because the area was a natural for defense purposes; others developed along trade routes where there was a change in transportation mode, like ocean to land (New York); others developed at points where rivers could be crossed or where major land routes intersected; and others developed at points where rivers came together (St. Louis), or where they emptied into oceans (New Orleans). Watauga County, and more specifically the area of Boone, owes its existence to the plateau on which it is located in the Blue Ridge Mountains. This plateau and its good approach from the east made it a natural land route for the pioneers to get through the mountains and into Tennessee and Kentucky.

The Town of Boone is located on this land route and grew from a cabin built by Daniel Boone for hunting and later used as a place for pioneers to spend the night on their trek through the mountains.

Other significant bench marks of the past that influenced the growth of Boone include its establishment as a trading center and County Seat of Watauga County, the selection of Boone as the location of the Watauga Academy (now Appalachian State University), the construction of good highways to Boone and the development of tourist attractions in proximity to Boone.

The Town of Boone remained relatively isolated in the mountains until the early 1920's when State and Federal Highways were built and impetus was added to the growth and development of Boone. In the last decade or so the tourist industry has begun to take root and more recently manufacturing industries have located in Boone. The highways will continue



to influence the future of Boone as they have in the past -- what with the possibilities of new industry and the growing recognition of the mountains as a valuable asset for recreation facilities. Where once the mountains attracted only summer tourists they now are attracting winter activity such as ski resorts. Recreation, both passive and active, is "big industry" and the prospects for the future indicate good growth.

#### The Pattern of Development

Mountain towns have an unusual pattern of development when compared to the average town built on fairly level land. Where the town on level land has been developed in the monotonous gridiron street pattern, the mountain town has an interesting street pattern influenced largely by the physical barrier of the mountains. Major thoroughfares and State highways follow the valleys and the land which possesses the least amount of grade. From these thoroughfares are streets which seem to grow like limbs on a tree and serve residential areas. This is characteristic of the Town of Boone. First, urban development lined Highways 421 and 321; more recently on Bypass 105, noticeable due to the age and quality of housing. As the choicest land along these thoroughfares diminished in supply, new development began to penetrate into the mountainsides perpendicular to the State highways. This pattern of development can be seen on the existing land use map.

## LAND USE

Land use in Boone is governed primarily by the town's topography and the predominant industries including tourism and the Appalachian State University. Because of the steep topography in and around Boone and other related factors, Boone has developed into a strip commercial village. Most recent growth has occurred along the highways radiating outward from the CBD and developing into nodes. Watauga Village is one example of this type of development. Generally, housing follows this radial pattern but does not require frontage on the major roads as do commercial activities. Steep land totally unsuitable for commercial or industrial development is utilized for residential purposes. A summary of the land uses in the town of Boone appears in the table below.

TABLE 20: LAND USE IN BOONE OUTSIDE OF CENTRAL BUSINESS DISTRICT: TOTAL ACRES AND PERCENTAGES

	<u>Acreage</u>	<u>Percentages</u>
Industrial	33.58	4.84%
Commercial	89.33	12.88%
Public/Quasi-Public	153.24	22.10%
Residential	<u>417.04</u>	<u>60.16%</u>
Total	693.19 acres	99.98%

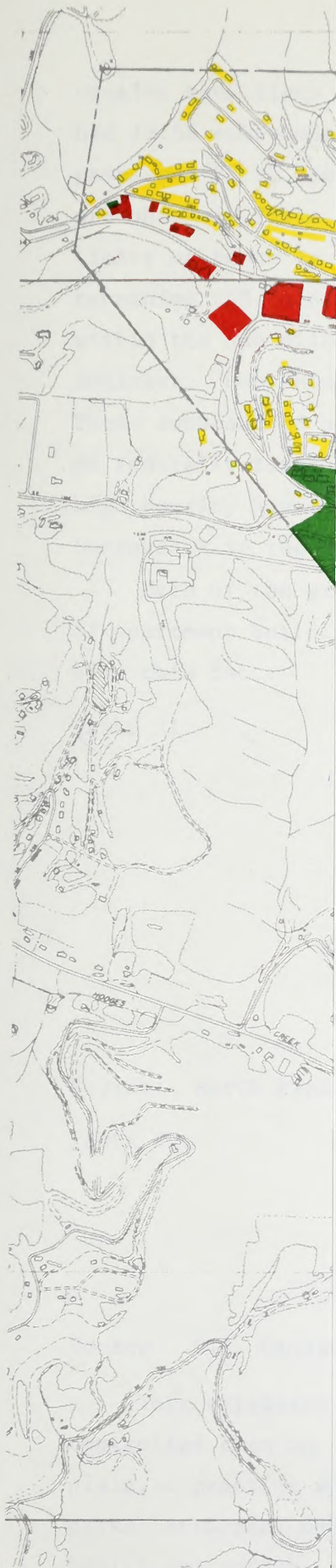
Each of these land uses will be discussed in the following section.

### Residential Land Use

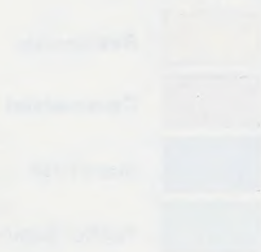
Residential land use accounts for a large percentage of the developed land, as shown by table 20. Boone's residential development pattern has been influenced by several factors. First, the university has had an effect on housing location, spurring clustered multi-unit apartment houses and apartments above businesses near the university, indicating that students prefer to live close to both town and campus. In 1960 renter-occupied dwelling units accounted for 44% of total housing. The remaining 56% was classified as owner occupied (1960). General residential locations follow the pattern of the major highways (421-221, 321 and 105). Some single family dwellings are found near the perimeter of the city, but this type of housing begins to decline as distance from the city limits increases. Total densities are greatest near the city limits in newer subdivisions which contain better housing than that in and around the CBD. Even so,







# EXISTING LAND USE

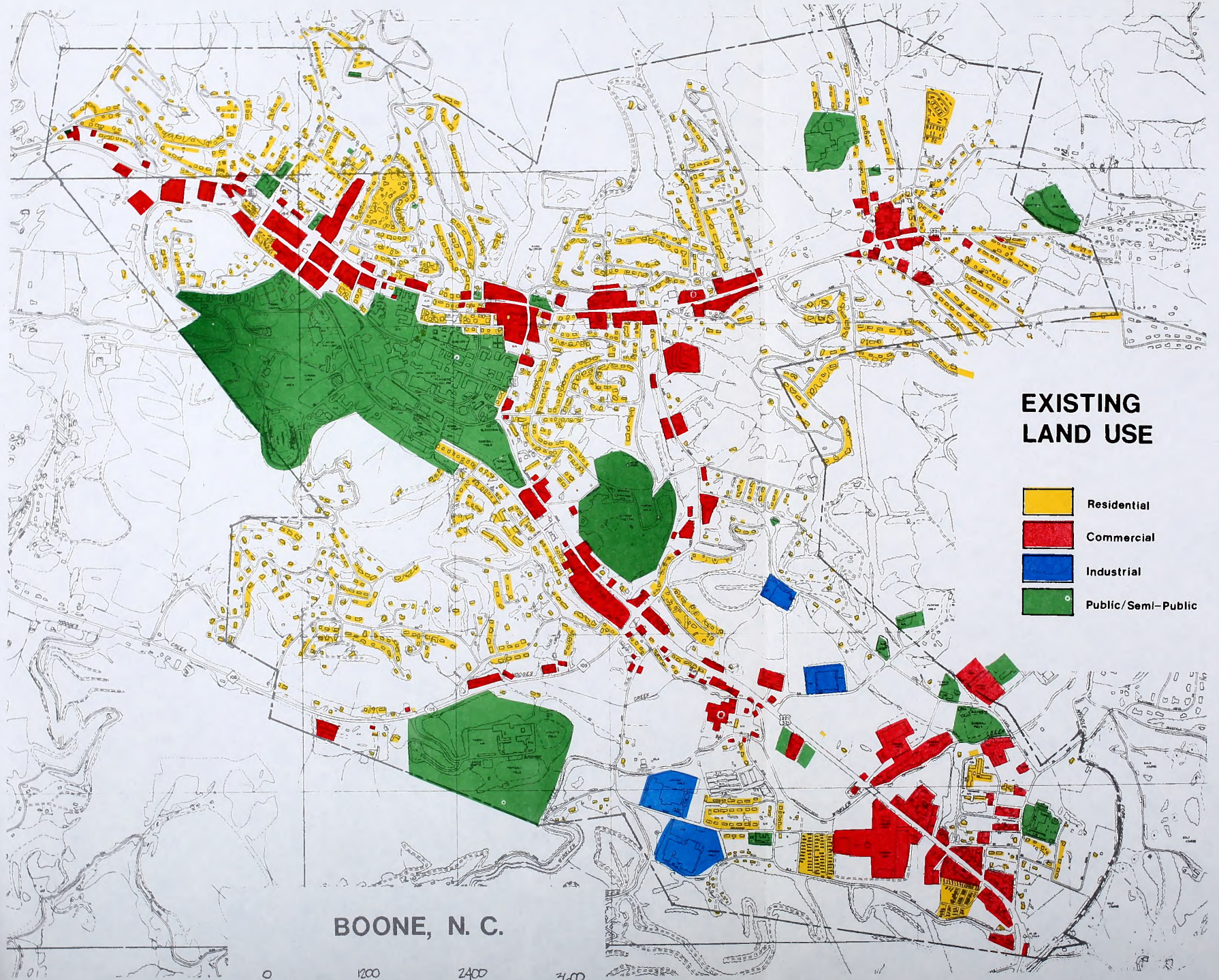


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




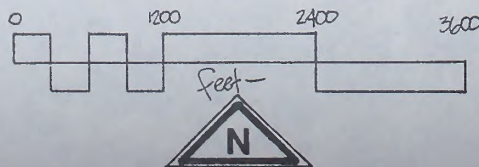




## EXISTING LAND USE

-  Residential
-  Commercial
-  Industrial
-  Public/Semi-Public

BOONE, N. C.







housing conditions in Boone and Watauga County are relatively good. Boone had 12.5% substandard housing, Watauga County had 30.7%, and North Carolina possessed 22.9% substandard housing units in 1960. The figures for 1971 are shown in Table 20. Approximately 75% of the housing within the corporate limits of Boone is in good condition or only in need of minor repair. The remaining 25% is dilapidated or in need of extensive repair. Housing within the one mile perimeter is scattered with good and fair housing predominant. Poor housing is generally found in small "pockets", or clustered. These substandard housing units could be rehabilitated through a variety of federally-funded housing programs. This would conserve good quality, high density housing within the corporate limits of the town to support businesses in the CBD.

Much of the growth in the Boone housing stock is due to construction of apartment buildings and more mobile homes. The following tables emphasize this fact:

TABLE 21:	<u>BOONE HOUSING CONDITIONS</u>	
	Standard	983
	Deteriorating	186
	Dilapidated	<u>21</u>
		1190 units
	Mobile Homes	213
	Duplexes and	93
	Apartment Bldgs.	

Source: North Piedmont Field Office, "Windshield Survey", March, 1977.

TABLE 22:	<u>BOONE HOUSING STOCK, 1970</u>	
	Single family	1163
	Apartments	744
	Trailers	<u>136</u>
		2043

Source: U.S. Census of Housing, 1970.

This expansion in the use of mobile homes should be more carefully controlled than in the past. Several parks have been built in the flood plain, a practice which invites disaster. Due to high densities in trailer parks, stringent design controls should be enforced to protect public health and safety.



### Commercial Land Use

Commercial land use in Boone and the one mile perimeter consists of three types of trade: retail, service and wholesale.

In 1967, activities in Boone comprised 90% of the county's total wholesale and retail trade. In 1960, the total trade of the area amount to \$16,081,055 while in 1970 the total was \$40,167,300. A concentration of commercial land use was found in the central business district along highways 421, 321 and 105. Though strip development along major roads dominates commercial activitiy, attempts at centralized development such as Boone Heights Shopping Center or Watauga Village have occurred. The major growth centers, including the above mentioned shopping centers, are concentrated along highway 321.

### Central Business District

The CBD forms the hub of Boone and Watauga County. Here are located the various governmental agencies as well as the main shopping district. The lure of the CBD is being challenged by the development along U.S. 321. The reasons for this are: the apparent lack of available land within the CBD and the immediate surrounding area for expansion, and the increase in the demand for goods and services not already available. The land uses in the CBD are shown in Table 23.

TABLE 23: LAND USE IN THE CENTRAL BUSINESS DISTRICT

Residential	.90 acres
Commercial	6.43 acres
Industrial	1.50 acres
Public and Semi Public	.14 acres
Parking	3.50 acres

The retail trade and the service functions are located along West and East King Street for a distance of about three blocks. The major concentration of commercial land use can be found on the south side of King Street.

Many of the buildings are beginning to show signs of aging. In fact, some new store fronts have been added to existing structures. Additions and store fronts, if they are to be allowed, should be regulated as to design and theme. Many of the buildings are brick structures built near the turn of the century that have some architectural interest of their own.

Rather than copy another style, many of the store fronts could be upgraded and used as is. A downtown design and parking study could provide renovation concepts, specify planting areas, work out parking problems, and facilitate traffic and delivery trucks in the downtown area. Upstairs apartments should be encouraged to realize full utilization of the structures.

The continued health of the CBD depends on the policies adopted by the town of Boone in the years to come. Fringe strip commercial areas may contribute to the decline of the CBD. A downtown design concept could study this area as an economic entity and work out solutions to problems of concern to all downtown merchants, such as signs, parking, traffic, and rehabilitation efforts.

#### Highway Service Areas

As stated earlier, large concentrations of highway service uses are found on highways 421, 321, and 105. Most of this development has occurred in the last 15 years as a response to the growth of Appalachian State University and the recreational industry. It is this type of development that is causing many problems for the town of Boone. Among these problems are:

- A. Traffic congestion caused by the entrance and exit of cars into the businesses from the highway traffic stream. This slows down traffic and increases traffic accidents. Cluster commercial areas with controlled access points (ex. Watauga Village and Boone Heights) ease this problem somewhat;
- B. Signs in these areas have not been controlled in the past and have damaged the visual environment of the area. A sign ordinance should be instituted immediately which would control the size, type, and location of new advertisements. Existing signs could be brought into compliance or replaced within a two to four year time period;
- C. Floodplain land is being used for commercial purposes along highway 321. This practice invites disastrous consequences from flooding. Floodways should be identified by the Soil Conservation Service and protected from further development. Federal flood insurance protection should be sought for existing structures in the floodplain.

Existing zoning regulations should be updated to show new uses and stringently enforced in the future to control the design and placement of commercial land uses. Hodge-podge rezoning is not the solution to Boone's growth problems.



### Industrial Land Use

Most of Boone's industry is located within the city limits. Boone's industrial base includes Blue Ridge Shoe, IRC, Shadowline, Vermont American, North State Canning Company, Miller Industries, and Burley's Tobacco Warehouse. Industrial land use has been held to a minimum because of the area's topography and the non-available skilled labor. Industry could be located on the left side of Deerfield Road in the vicinity of Lowe's and near the old State Farm. Boone should make an effort to designate suitable industrial sites and hold these areas to induce new firms to locate in the area. Due to the steep topography in Boone, prime industrial sites are very limited. If Boone is to expand its industrial base, suitable plant locations should be reserved and not used for other purposes.

### Public and Semi-Public Land Use

Public and semi-public land use in the county consists of several types of buildings and lands including: courthouse and city governmental property, schools, Appalachian State University and property, Watauga Prison Camp, National Guard Armory, fire tower, forest service and related buildings. Appalachian State University occupies 60 acres of central campus but owns 330 acres not adjacent to the central campus. Numerous churches of all denominations exist within the area and offer almost all of the outdoor recreational facilities in the area. Horn in the West is a summer and early fall public attraction within the city limits of the city. The campus of A.S.U. provides tennis courts and gymnasium facilities that are used by residents of the area. Further lands should be purchased for centrally located public parks which would include hiking trails, nature trails, and recreational areas.

### Non-Urban Land Use

Non-urban land uses in Watauga County are more predominant outside the Boone planning area, but do exist within the one mile perimeter, including forests, farms, and pasture lands. Residential and recreational land uses are currently lowering the percentage of rural land uses in the planning area. Farms in the one-mile perimeter constitute a smaller percentage of the land than the area outside the planning area. The major crops produced on these farms include grain, corn for silage, tobacco, oats and cabbage.



# DEVELOPMENT PLAN

Development	
Land Use	
Infrastructure	
Public Services	
Environmental	
Transportation	
Utilities	
Other	

BOONE



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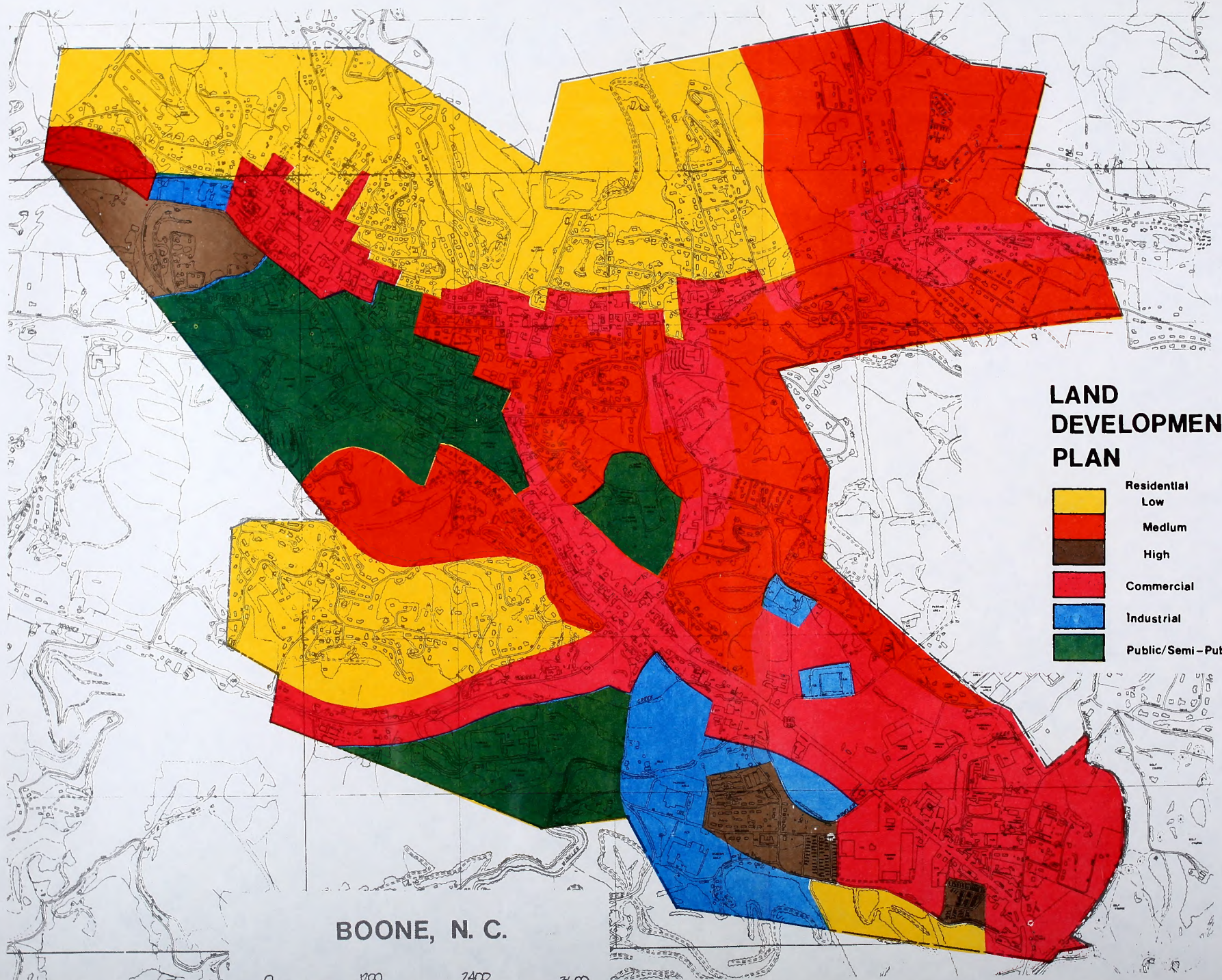
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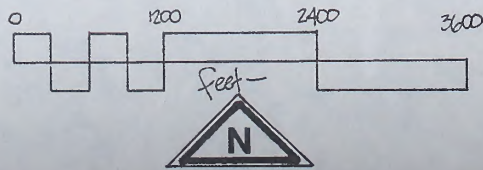




**LAND  
DEVELOPMENT  
PLAN**

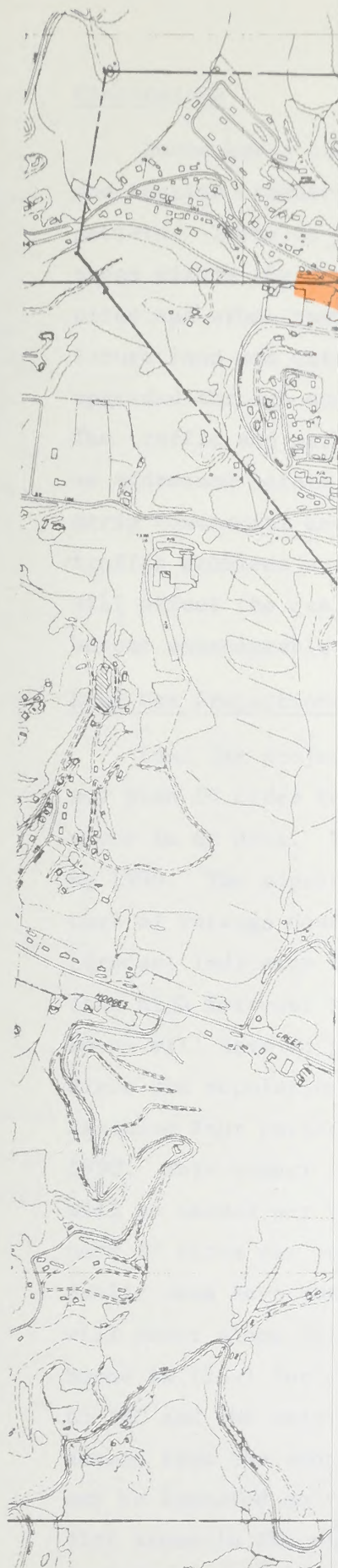
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|---|--------------------|
|  | Residential<br>Low |
|  | Medium             |
|  | High               |
|  | Commercial         |
|  | Industrial         |
|  | Public/Semi-Public |

**BOONE, N. C.**







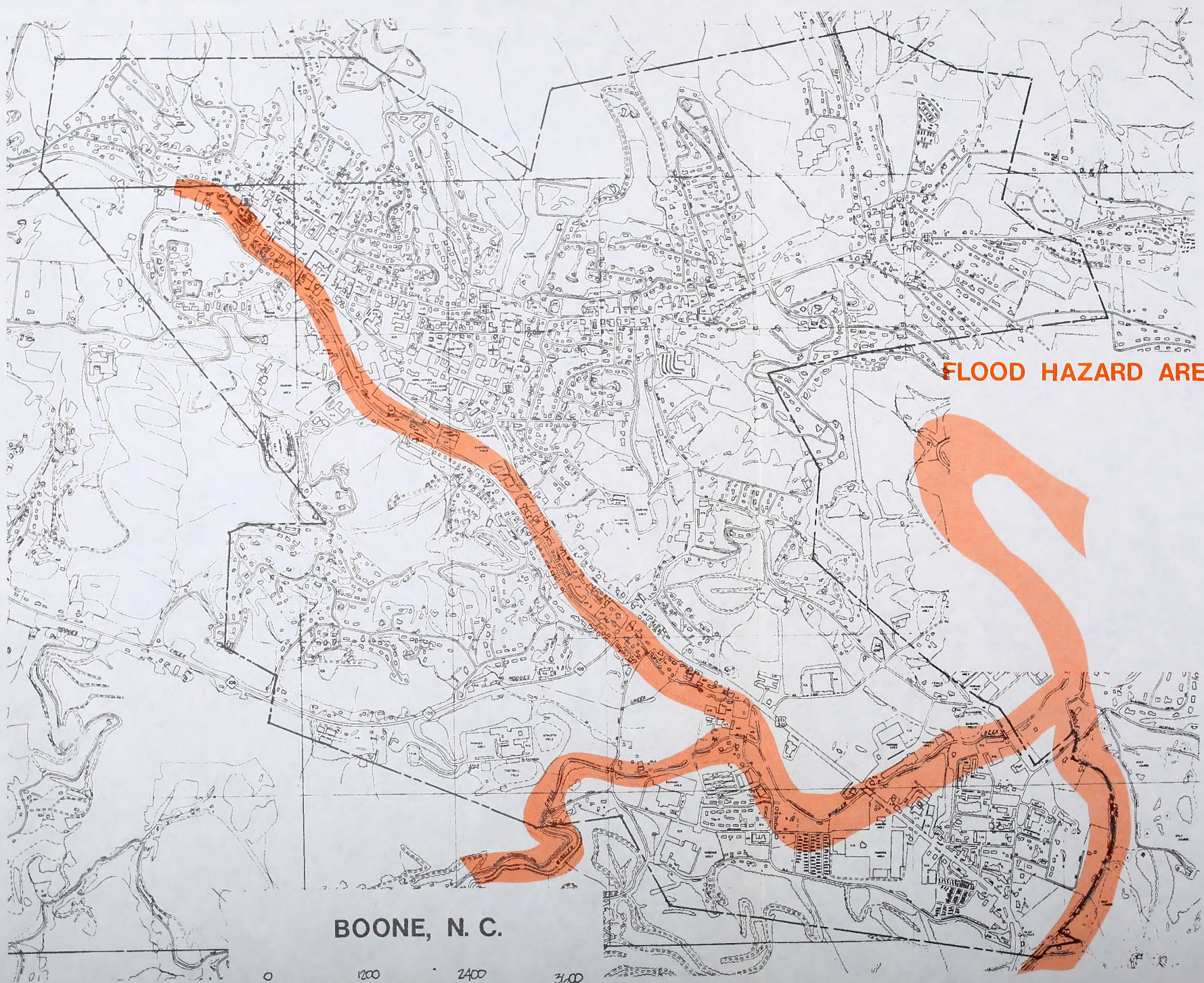


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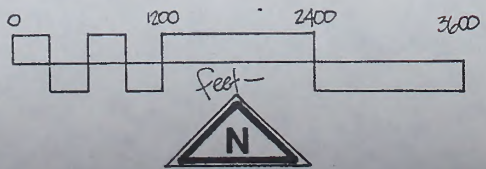






FLOOD HAZARD AREAS

BOONE, N. C.







## Conclusions

Boone has a concentration of service industries, educational facilities, and tourist oriented business functions which dominate the land use pattern. There is a shortage of heavy industry, parks, and recreational areas within the corporate limits of the town. Provision of industrial sites and urban parks should be a prime consideration when programming future land use patterns. Portions of the towns housing stock need to be upgraded through community development and housing rehabilitation programs. The traffic and parking problems in the central business district must be addressed before business begin to move out of the area. Uncontrolled strip commercial development along the outskirts of the town is causing traffic problems and expensive service **patterns**. All of these problems will affect the quality of life in Boone and must be dealt with before they become unmanageable.

## Land Use Projections

Land use projections, like population projections, are necessary in any plan in order to ascertain the amount and type of growth that will occur in an area. The projections indicate that Boone will grow considerably by 1990. The population of Boone increased 137.5% during the sixties while that of Watauga County increased 33.5% during the same period. The median forecast indicates that Boone will grow from 8,754 (1970) to 17,900 in 1990 (the high forecast is 27,500). Assuming this to be a reasonable estimate, Boone will have to grow accordingly to accommodate the added population, since the population of Boone will increase by 9,146 persons by 1990. Assuming four persons per household 2,286 new houses will be needed by 1990. This number divided by 17 (1973 - 1990) means that 135 new houses will be needed per year. With five houses per acre 135 new houses will need 27 acres per year. Land necessary for industrial, commercial or public uses have not been calculated specifically. Commercial development will occur along 321, and to a lesser extent along 421 and 105. South Boone is ideal for an industrial park, the exact location being adjacent to IRC and the near-by shopping center, with additional land available across from the shopping center. Residential and some commercial development may be expected on the slopes surrounding Lowes and the state farm. The flat areas in the vicinity of the Moose Lodge and the state farm could be used for industrial or residential development if some drainage work was done to modify existing conditions. East Boone, toward Perkinsville, may experience some residential development.



In the central business district efforts should be made to maintain the external cleanliness of the buildings. The merchants, as a group or in conjunction with the Chamber of Commerce, could be organized to conduct many cooperative projects for the benefit of the CBD.

Parking is a severe problem within the city of Boone. Immediate improvements can be made by paving, illuminating and denoting the location of the parking lots north of Queen Street, between Burgess Furniture and the Northwestern Bank, and on East Howard Street, next to Goodnight Brothers. Professional design assistance should be used to gain optimum use of these areas. All of the lots should be non-metered, time limit of two hours per customer. Those merchants who have adequate facilities for parking and wish to restrict parking privileges to their patrons may do so, but should not forget that cooperation is needed to solve the parking problems that plague the downtown.

The rental units occupying the upper floors of many stores should be upgraded using public or private funds to meet minimum housing code requirements. Fire escapes, central heating to replace oil stoves, living areas separated from sleeping areas, and adequate toilet facilities are a few of the improvements needed. Continued multiple use of commercial buildings should be encouraged.

Because of the limited land area within the CBD, planning is needed to use the area carefully. A downtown design program may require either rehabilitating or razing old buildings and constructing new ones, with the goal of obtaining the most intensive use of the land and creating a pleasant place for shoppers. Two means of reaching this goal are horizontal and vertical expansion. Horizontal expansion can be accomplished by expanding the CBD into neighboring land, either by purchasing this land or by condemning it. This plan cannot be supported since the CBD would encroach into residential neighborhoods, lowering the property value in these areas.

Vertical expansion would result in more intensive land use in the central business district by constructing buildings of greater height than now exist. The height of such buildings should not exceed four stories, to avoid a gloomy appearance and wind tunnel effects in the winter. Small plazas and landscaping would make the area a more pleasant place for shoppers.

## TRANSPORTATION

Transportation, the circulatory system of our mobile society, is largely dependent on the automobile, but is augmented by airlines, railways, and bus lines. Boone is serviced by three intercity bus lines: Greyhound, Trailways, and Appalachian Coaches. The nearest commercial airport, located in Hickory is served by Piedmont Airlines and has connections to major cities and other airlines. The present airport in Boone is inadequate for any air traffic other than small private planes. Boone should work with Watauga County to conduct an airport feasibility study for the area to determine whether or not a new airport is needed. Rail passenger service is available in Hickory and freight service in Jefferson.

The real story in transportation has been the expanded use of the automobile. The people of Boone, like Americans everywhere, rely more and more on the automobile as the major means of transportation. The automobile has also allowed people from other areas to come to Boone in large numbers as residents, students, and tourists.

During the past few years the increase in the number of motor vehicles in the Boone area has been phenomenal. Using the national average of one motor vehicle per two people, there were approximately 1,843 vehicles in the city in 1960. By 1970 this total had risen to 4,327, an increase of 42.6%.

The greatest of Boone's traffic flows on U.S. Highways 421, 321 and 221. The large increase in the number of motor vehicles has brought congestion that clogs the major intersections, thus slowing the flow of traffic at peak travel periods. With the high estimate of the population indicating the possibility of 46,000 people in Boone in less than a generation, there could be an estimated 13,000 motor vehicles in the city by 2,000, not including the expected heavy volume of tourist traffic.

In analyzing the situation, several alternatives appear feasible: automobiles coming into Boone could be restricted, a public transit system could be started, or the implementation of one-way streets and traffic lights could be initiated.



The restriction of automobiles relates to the evolution of mass transit. Parking areas could be established in a perimeter about the city with bus service taking people into and out of the area. This same service could also make regular runs to the resorts that abound in the county.

The use of one-way streets and traffic lights are the immediate solution to the problem of traffic congestion. The aim of these recommendations is to help expedite the movement of traffic through and around Boone.

The section of King Street (U.S. 421) from State Farm Road to North and South Water Streets would be made one-way, north bound. The south bound route would follow South Water Street, to Rivers Street, to Faculty Street, continuing to 105. This will allow traffic coming from the north to bypass the CBD producing a smoother flow from the south. West and East Howard Streets could be one-way from South Water Street to Appalachian Street. All streets leading off the Howards Streets would be one-way onto King Street, with the exception of South Depot Street. This scheme will allow shoppers to make a circuit in search of suitable parking. College Street could be one-way from East Howard Street, to Appalachian Street, to King Street. The alley between the First Baptist Church and Appalachian Hall would be one-way onto College Street. Parking should be prohibited from College Street to Appalachian Street, and maintained or expanded from Appalachian Street north.

A major reason in the widespread decline of CBD's is lack of suitable parking facilities and access to the inner city. If Boone's central business district is to compete with outlying shopping centers, the traffic pattern in town should be changed to allow for easy access, adequate parking, and suitable bypasses. At this point, a new bypass in town does not appear feasible due to the close proximity of business and residential uses in the area.

## RECOMMENDATIONS

The previous sections have described existing conditions in the town of Boone and presented projections for the future. Several steps necessary to deal with the problems identified by this report are summarized below:

### Immediate Priorities

#### 1. Zoning Ordinance Update

The Boone zoning ordinance and map should be updated to reflect changing land uses in the town of Boone, and to provide consistency in the various zoning areas.

#### 2. Sign Ordinance

Boone should adopt a sign ordinance to control the type, placement, and size of outdoor advertisements. Non-conforming signs should be removed within a reasonable period of time.

#### 3. Housing Authority

A housing authority should be established to deal with the problem of 207 substandard housing units locally. Federal assistance should be pursued to upgrade the existing housing stock within the community. Completion of a housing assistance plan is the first step in this process.

#### 4. Mobile Home Ordinance

The existing mobile home ordinance should be updated to provide for proper spacing of trailers, parking, and design of mobile home parks. All parks should be inspected to insure compliance with existing regulations and protect public health and safety.

#### 5. Downtown Traffic, Design, and Parking Study

Boone should conduct a CBD study to upgrade parking, open space, and traffic flows. A Merchants Association should be a key element in the execution of this plan.

#### 6. Code Enforcement

The town of Boone should vigorously pursue a code enforcement program including the N.C. Housing, Electrical, Plumbing and Heating, and other building codes. The use of older residential and commercial structures necessitates this measure to protect public health and safety.

#### 7. Floodway Zoning

Existing floodplains and floodways in the town of Boone should be delineated and future development controlled. Federal Flood Insurance regulations mandate control of floodway development.



8. Sewer Study

A 208 Wastewater Treatment Study should be completed by the Town of Boone as a first step of increasing the sewage treatment capacity of the existing plant. Additional tap-ons should be prohibited until these improvements have been completed.

9. Water Treatment

Existing water treatment capacity should be expanded and coordinated with Appalachian State University to insure adequate supplies of raw water for the future.

Short Range Priorities - (1978 - 1983)

1. City-University Coordination

Boone and Appalachian State University should work together closely in the areas of water, sewer, fire, housing, recreation, police and health protection to insure adequate local services to meet the needs of the residents.

2. Land Use Policy Coordination

The town of Boone should develop a set of development policies along guidelines established by the Planning Board and the Land Development Plan. Clear policies do not exist at this time - a fact which is exemplified by the growth problems Boone is experiencing.

3. Acquisition of Open Space

Boone should begin to acquire open space for neighborhood and city parks to meet the recreation needs of its residents.

Long Range Planning (1984 - 1990)

1. City-County Planning Department

Boone, Blowing Rock, and Watauga County should initiate a joint planning and inspections program. This department would coordinate land-use, economic development, water, sewer, recreation, and transportation on a county-wide basis.

2. Plan Revision

Update land development, housing assistance, and other plans on a five year basis to meet changing needs of the population.

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